

Appl. Serial No.: 10/691,866  
Amendment dated January 21, 2005  
Reply to Office action of July 21, 2004

### **REMARKS**

In response to the final Office Action mailed July 21, 2004, claims 24-26, 36, 37 have been amended, claims 1-23, 27-35, 38-40 have been canceled. In addition, the specification has been amended to note that the present application is a continuation of copending U.S. Patent Application Serial Number 09/837,827, entitled EFFICIENT DIGITAL METHOD OF AND SYSTEM FOR DETERMINING THE INSTANTANEOUS PHASE AND AMPLITUDE OF A VIBRATORY ACCELEROMETER AND OTHER SENSORS, filed on April 18, 2001. All the amendments are supported by the specification. No new matter has been added.

### **Priority**

The present application is a continuation of copending U.S. Patent Application Serial Number 09/837,827. However, the present application was not amended to note the reference to the prior application within the later of four months from the actual filing date of the present application or sixteen months from the filing date of the prior application. Accordingly, a petition for an unintentionally delayed benefit claim under 37 CFR 1.78(a)(3) or (a)(6) is being filed herewith. The petition is accompanied by: (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted); (2) a surcharge under 37 CFR 1.17(t); and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional.

### **Claim Objection**

Claim 40 was objected to. However, claim 40 has been canceled by the present amendment.

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**Rejection Under 35 U.S.C. §102**

Claims 1-9 were rejected under 35 U.S.C. §102(b) as being anticipated by Birgenheier et al., U.S. Patent No. 5,187,719. In view of the cancellation of claims 1-9, this rejection is moot and should be withdrawn.

**Rejection Under 35 U.S.C. §103**

Claims 10-40 were rejected under 35 U.S.C. 103(a) as being unpatentable over Birgenheier et al., U.S. Patent No. 5,187,719. In view of the cancellation of claims 10-23, 27-35 and 38-40, this rejection is moot with respect to these claims and should be withdrawn.

Claims 24 and 36 have been amended to explicitly recite the combination of a CORDIC and the Hilbert transformer approximation. New claims 41 and 42 have been added. New claims 41 and 42 define the output of the sensor as an "output analog signal characterized by an instantaneous phase and amplitude" (which is a baseband signal), as supported by the original specification, which describes methods and systems for determining the instantaneous phase and amplitude of the sinusoidal output from a vibratory accelerometer and other sensors having a sinusoidal output. Other limitations of the new claims 41 and 42 are also supported by the original specification. For example, support for the new claim 41 can be found in the paragraph 16, and support for new claim 42 can be found at pages 7-8, paragraphs 29- 37.

Applicants respectfully submit that the invention recited in independent claims 24 and 36 is patentable over Birgenheier et al. because the device and method involve processing sinusoid signals output from a vibratory sensor, which signals are not RF signals, but are base-band signals. Furthermore, the combination of the Hilbert transformer approximation device and the CORDIC signal processor is not taught or suggested by Birgenheier. By the present

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amendments, claims 24 and 36 have been amended to explicitly recite the combination of a CORDIC and the Hilbert transformer approximation, and new independent claims 41 and 42 recite that the analog sinusoid signal is a baseband signal.

Applicants believe that amended independent claims 24 and 36 and new claims 41 and 42 are allowable over the prior art of record. In particular, applicants respectfully submit that the inventions recited in amended independent claims 24 and 36 and new claims 41 and 42 are patentable over Birgenheier et al. because the device and method involve processing sinusoid signals output from a vibratory sensor, which signals are not RF signals, but are base-band signals. Furthermore, the combination of the Hilbert transformer approximation device and the CORDIC signal processor is not taught or suggested by Birgenheier.

#### Conclusion

Based on the foregoing, applicants assert that claims 24-26, 36, 37, 41 and 42 are allowable over the prior art of record and request that this amendment be entered in the application and that the application be passed to issue. If the examiner believes that a telephone conference with applicants' attorney would further the prosecution of the application, he is invited to telephone the undersigned at the number listed below.

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If additional fees are required, or otherwise necessary to cover any deficiency in fees already paid, authorization is hereby given to charge our deposit account no. 50-1133.

Respectfully submitted,

McDermott Will & Emery LLP

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